

Sub. D17
547
C17

What is claimed is:

1. A process of making a multi-piece golf ball comprising making at least one of a cover component and a core component of the ball by mixing two or more reactants that react and form a reaction product with a flex modulus of 5 - 310 kpsi in a reaction time of about 5 minutes or less, the component having a thickness of at least 0.01 inches and a demold time of 10 minutes or less.
2. A process according to claim 1, wherein the reaction product comprises at least one member selected from the group consisting of polyurethanes, polyureas, epoxies and unsaturated polyesters.
3. A process according to claim 1, wherein the reaction process comprises reaction injection molding.
4. A process according to claim 1, wherein the reaction product comprises at least one member selected from the group consisting of polyurethane and polyurea.
5. A process according to claim 4, wherein the reaction product with a flex modulus of 5 - 300 kpsi is formed in a reaction time of about 3 minutes or less.
6. A process according to claim 4, wherein the component has a thickness of at least 0.02 inches.
7. A process according to claim 4, wherein the component includes a cover component.
8. A process according to claim 7, wherein the cover component is a dimpled cover layer and the cover component has a thickness of at least 0.02 inches.
9. A process according to claim 7, wherein the cover component has a hardness of 20 - 95 Shore D.
10. A process according to claim 7, wherein the cover component has a hardness of 30 - 75 Shore D.
11. A process according to claim 1, wherein the component includes a core component.

25. A golf ball according to claim 18, wherein the hardness of the cover is 30 - 75 Shore D.

26. A golf ball according to claim 25, wherein the flexural modulus of the cover is in the range 5 to 100 kpsi.

5 27. A golf ball according to claim 18, wherein the flexural modulus of the cover is higher than that of the core.

28. A golf ball according to claim 18, wherein the ball has a multi-layer cover.

29. A golf ball according to claim 18, wherein the cover comprises a
 10 reaction injection molded material comprising polyurethane and further comprises at least one member selected from the group consisting of optical brightener, pigment, dye, antioxidant, and UV light stabilizer.

30. A golf ball according to claim 18, wherein the cover further comprises a filler.

15 31. A golf ball according to claim 30, wherein the filler includes at least one member selected from the group consisting of glass, metal, minerals, oxides, sulfides, titanates, polymeric resins and ceramics.

32. A golf ball according to claim 14, wherein the ball has a core and a cover, and at least the core comprises a reaction injection molded
 20 polyurethane/polyurea material.

33. A golf ball according to claim 30, wherein the core comprises at least two components and at least one core component comprises reaction injection molded polyurethane/polyurea material.

34. A golf ball according to claim 14, wherein the ball has a core, and a
 25 cover, each of which comprises reaction injection molded polyurethane/polyurea material.

35. A golf ball according to claim 30, wherein the cover comprises an ionomer.

36. A golf ball according to claim 14, wherein the polyurethane/polyurea
 30 material incorporates meta-tetramethylxylylene diisocyanate.

37. A golf ball according to claim 18, wherein the cover has a generally uniform consistency both at the seam and the poles.

38. A process for producing a golf ball including the step (a) of: reaction injection molding a polyurethane/polyurea material to form at least one of a core layer and a cover layer of the ball.

~~39 A process according to claim 36, further comprising the step of (b) recycling at least 20% of the polyurethane/polyurea that is produced in connection with step (a) but which is not incorporated into the ball during that step~~

10 40. A process for producing a golf ball comprising (a) forming a core, (b) covering the core, and (c) coating and adding indicia to the covered ball, wherein at least one of steps (a) and (b) comprises reaction injection molding of a polyurethane/polyurea material.

41. A process according to claim 38, further comprising the step of (d) recycling at least 20% of the RIM-produced material comprising polyurethane that was produced consequent to step (a).

42. A golf ball comprising at least one fast-chemical-reaction-produced layer, said layer having a flex modulus of 5 - 310 kpsi in a reaction time of 5 minutes or less and a thickness of at least 0.01".

20 43. A golf ball according to claim 42, wherein said ball has a multi-layer cover and said at least one fast-chemical-reaction-produced layer is an inner cover layer.

44. A golf ball having a core and a cover, the cover comprising polyurethane/polyurea which is formed from reactants, 5 - 100 weight percent of which are obtained from recycled polyurethane/polyurea.